GE Medical Systems
Training in Partnership

Technical Publications

Direction 2166104
Revision 0

RT 3200 Advantage III Quick Guide

Copyright© 1996 by General Electric Company

Operating Documentation

GE Medical Systems

GE Medical Systems: Telex: 3797371
P.O. Box 414, Milwaukee, Wisconsin 53201 U.S.A.
(Asia, Pacific, Latin America, North America)

GE Medical Systems—Europe: Telex: 261794
283 rue de la Miniére BP34
78533 Buc Cedex

Revision History

REV	DATE	REASON FOR CHANGE
0	August 9, 1996	Initial Release

LIST OF EFFECTIVE PAGES

PAGE NUMBER	REVISION NUMBER	PAGE NUMBER	REVISION NUMBER	PAGE NUMBER	REVISION NUMBER
Title Page	0	Introduction-1 thru -10	0	GYN/Fert. Apps-1 thru -16	0
A and B	0	Initial Set Up-1 thru -6	0	Urology Apps-1 thru -10	0
i thru iv	0	Measurements-1 thru -8	0	Accessories-1 thru -8	0
Safety-1 thru -4	0	OB Apps-1 thru -8	0		

Please verify that you are using the latest revision of this document. Information pertaining to this document is maintained on GPC (GE Medical Systems Global Product Configuration). If you need to know the latest revision, contact the GE Ultrasound Clinical Answer Center at 1-800-682-5327.

Table of Contents

Title Page

Revision History ..... A

Table of Contents i

Safety

Prescription Device Safety-2
Indications for Use Safety-2
Contraindications Safety-3
Serviceable Components Safety-3
Operator Manual Safety-3
Troubleshooting—Who To Contact Safety-4

Introduction

Major Features Introduction-2
Probe Ports Introduction-4
Keyboard Introduction-5
- Image Preparation Keys Introduction-5
- Alphanumeric Keyboard and Function Keys Introduction-6
- Image Adjustment and Annotations Introduction-7
- Trackball and Measurements Introduction-8
- Image Setup Keys Introduction-9

Initial Set Up

Monitor Contrast/Brightness ..... Initial Set Up-2
Hospital Name ..... Initial Set Up-3
Date Format ..... Initial Set Up-4
Time Format ..... Initial Set Up-5
Recommended Presets ..... Initial Set Up-6

Measurements

Measurement Controls Measurements-2
Distance Measurement Measurements-3
Circumference Measurement Measurements-4
Area Measurement Measurements-5
Ellipse Measurement Measurements-6

OB Applications

Patient Data Entry ..... OB Apps-2
Gestational (OB) Summary Report ..... OB Apps-3
OB Measurement Selection ..... OB Apps-6
Recommended OB Comments Library ..... OB Apps-8

GYN/Fertility Applications

Patient Data Entry ..... GYN/Fert. Apps-2
GYN Summary Report ..... GYN/Fert. Apps-3
Probe Orientation ..... GYN/Fert. Apps-5
GYN Measurement Selection ..... GYN/Fert. Apps-7
Fertility Summary Report ..... GYN/Fert. Apps-10
IVF Measurement Selection ..... GYN/Fert. Apps-12
Recommended GYN Comments Library ..... GYN/Fert. Apps-15

Urology Applications

Patient Data Entry ..... Urology Apps-2
Urology Summary Report ..... Urology Apps-3
Probe Orientation ..... Urology Apps-5
Urology Measurement Selection ..... Urology Apps-7
Recommended Urology Comments Library ..... Urology Apps-10

Accessories/Supplies

Placing Orders Accessories-2
Disinfection Accessories-2
Probe Covers Accessories-3
Gel Accessories-4
Gel Holders Accessories-4
Biopsy Supplies Accessories-5
Sony Printer Paper Accessories-8

Safety

Prescription Device

Indications for Use

Contraindications

Serviceable Components

Operator Manual

Troubleshooting—Who to Contact

This chapter emphasizes precautions to be aware of when working with the RT 3200 Advantage III. Refer to the Preface—Safety and Section 10—Appendices in the RT 3200 Advantage III Operator Manual for more thorough explanations.

Prescription Device

CAUTION: United States law restricts this device to sale or use by or on the order of a physician.

Indications for Use

The RT 3200 Advantage III is an ultrasonic diagnostic system equipped for linear, convex and micro-convex scanning. It may be used in many areas such as obstetrics, gynecology, urology and radiology. The optional 7 MHz transrectal probes give the RT 3200 Advantage III urology scanning capabilities.

The RT 3200 Advantage III produces high-quality images employing dynamic focus on transmit and continuous focus on receive. It is equipped with functions to enhance the clinical diagnosis, such as display mode selections, measurements, calculations, OB, GYN, IVF and Urology Summary Report Pages.

Contraindications

The RT 3200 Advantage III is NOT intended for ophthalmic use (or any use causing the acoustic beam to pass through the eye).

Serviceable Components

DANGER

The RT 3200 Advantage III contains no user serviceable components. To avoid electrical shock hazard, do not remove panels or covers from the console. Failure to do so could cause serious injury. Servicing must be performed by qualified service personnel only.

Operator Manual

Read and understand the RT 3200 Advantage III Operator Manual (2158323) prior to operating the system. Keep the User Manual with the system for quick and easy reference.

Troubleshooting—Who To Contact

If additional information or assistance is needed, please contact your local distributor or the appropriate support resource listed below:

USA

GE Medical Systems
Ultrasound Service Engineering
4855 W. Electric Avenue
Milwaukee, WI 53219

TEL: (1) 800-437-1171
FAX: (1) 414-647-4090

Customer Answer Center — TEL: (1) 800-682-5327 or (1) 414-524-5255

CANADA

GE Medical Systems
Ultrasound Service Engineering
4855 W. Electric Avenue
Milwaukee, WI 53219

TEL: (1) 800-664-0732

Customer Answer Center — TEL: (1) 800-682-5327 or (1) 414-524-5255

LATIN AND SOUTH AMERICA

GE Medical Systems
Ultrasound Service Engineering
4855 W. Electric Avenue
Milwaukee, WI 53219

TEL: (1) 305-735-2304

Customer Answer Center — TEL: (1) 800-682-5327 or (1) 414-524-5255

Introduction

Major Features

Probe Ports

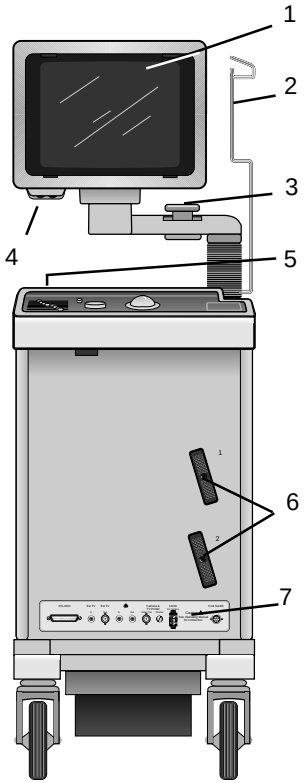
Keyboard

This chapter is an introduction to the basic features of the system console of the RT 3200 Advantage III. Refer to Section 1—Introduction, Section 2—Front Panel Keyboard and Section 3—Detailed Control Description in the RT 3200 Advantage III Operator Manual for more thorough explanations.

Major Features

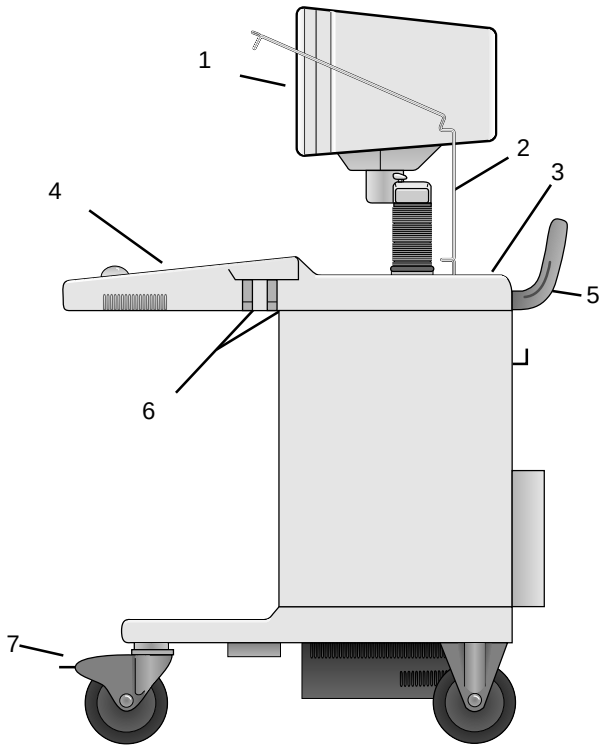
The following are major features of the RT 3200 Advantage III system console. Most features come with the standard configuration, while other features are options to the standard console.

1. **12-inch monochrome monitor**
   It displays the ultrasound image and scan parameter data.
2. **Probe arm**
   Used to support the probe cable. Keeps the cable off the floor.
3. **Adjustment of monitor height**
   The height of the monitor can be adjusted by pressing and holding this button while raising and lowering the monitor.
4. **Adjustment of contrast and brightness**
   These controls adjust the contrast and brightness of the display to the operator's preference.
5. **Power switch**
   Used to turn on/off the main AC power to the system.
6. **Probe connectors**
   Connects up to two probes to the system at one time.
7. **Front panel**
   Used to connect the system to a camera, VCR, page printer or external monitor.



Major Features (cont'd)

1. **12-inch monochrome monitor**
   It displays the ultrasound image and scan parameter data.
2. **Probe arm**
   Used to support the probe cable. Keeps the cable off the floor.
3. **Upper panel**
   Used to connect a VCR or page printer (under top coverplate).
4. **Alphanumeric Keyboard**
   Used to change scan parameters, enter the text, or select various function menus.
5. **Handle**
   Used to aid in the movement of the system and to wrap power cord around when transporting.
6. **Probe holder, gel holder**
   Used to hold scan probes and scan gel.
7. **Wheel locks**
   Used to lock wheel rotation in order to prevent accidental system movement. To lock wheels, depress the lever with your foot.

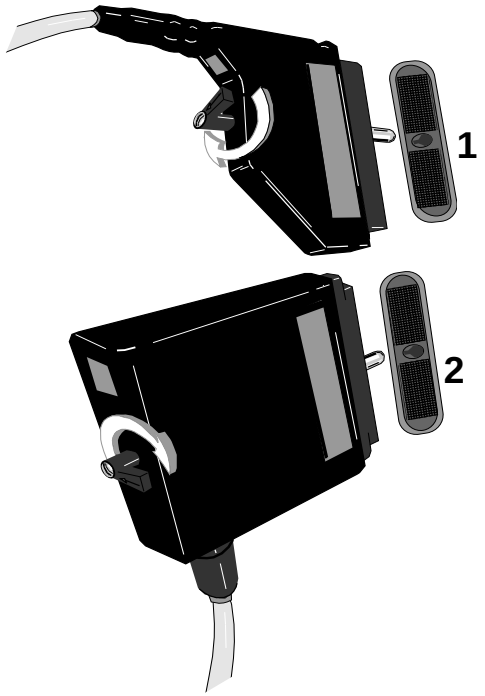


Probe Ports

Two transducers can be attached to the system at one time. The default outlet is at the top (#1 in figure on right).

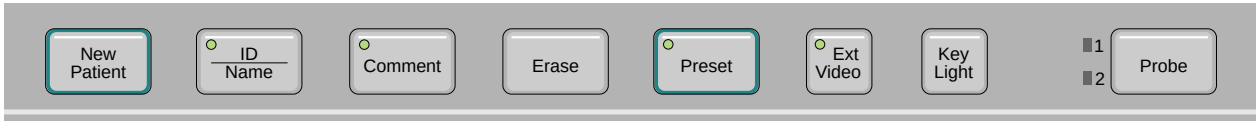
To lock the probe to the system connector, turn the knob clockwise.

CAUTION Make sure that the name of the probe is right side up.



Keyboard

Image Preparation Keys



This group of controls are used to let the user get prepared for imaging.

New Patient: Used at the beginning of each study to reset the system.

ID/Name: Used during a study to enter/change patient data or exam categories.

Comment: Used to enable the placement of comments in the image area.

Erase: Used to erase an image, comments, measurements and calculations (must be pressed twice to erase).

Preset: Used to select preset scan parameters for the active probe.

Ext. Video: Enables an external video signal (i.e. VCR playback) to be processed through the system to the monitor.

Key Light: Turns the soft green backlight to the keyboard on or off.

Probe: Used to select a probe for scanning from the two that may be attached.

Alphanumeric Keyboard and Function Keys

Alphanumberic Keyboard: Used to change scan parameters, enter the text or select various function menus.

Function Keys:

OB Tbl 1 and OB Tbl 2: Used to call up preset program menus to select OB calculation tables.

Calc 1, Calc 2 and Calc 3: Used to call up preset program menus to select Advanced Calculation packages.

Map: Used to call up preset program menus to select Gray Scale Mapping selections.

Arrows: Allows left/right movement for selecting a menu option.

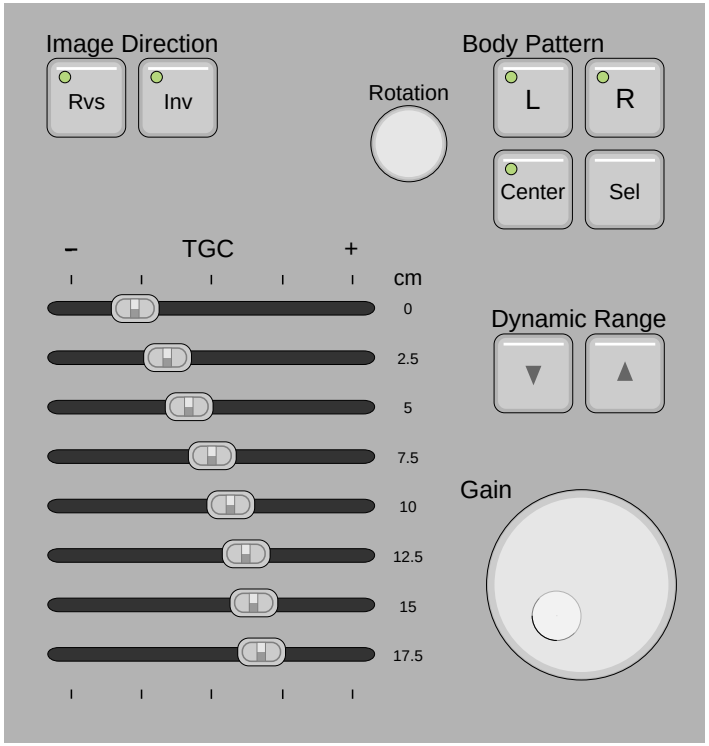
Image Adjustment and Annotations

Image Direction:

Rvs:	Used to reverse the image display (left and right).
Inv:	Used to invert the image display (top/bottom).
TGC:	Used to adjust the gain at 8 specific depth levels.
Dynamic Range:	Used to adjust dynamic range of the image in B- and M-Modes.
Gain:	Used to adjust the receiver gain in B- and M-Modes.
	Used to step frame by frame through the optional 32 frame Cine memory in Freeze Mode.

Body Pattern:

L, R, Center and Sel:	Enables a group of body patterns for display.
Rotation:	Used to rotate transducer position on body pattern.



Trackball and Measurements

Trackball: Used to move a cursor while making comments, to select tables or functions within the reports and to make measurements.

Measurements:

Dist: Used to enable the cursors to make generic linear distance measurements. Used in conjunction with the Trackball, Set and measure functions.

Trace/Area: Used to enable the trace function. Used to trace an object to determine circumference and/or area of the object. Used in conjunction with the Trackball, Set and measure functions.

Off: Used to erase the measurement cursors, trace and measured or calculated data.

Set: Used to fix a measurement cursor and enable the second of the pair.

Meas: Used to complete a measurement sequence and display the results.

Image Setup Keys

Mode (B, B/M and M): Used to select a display mode format.

Sweep Speed: Used to change the display speed in M-Mode.

Focus (1, 2, 3, 4 and Comb): Used to assign the optimum transmit focal zone.

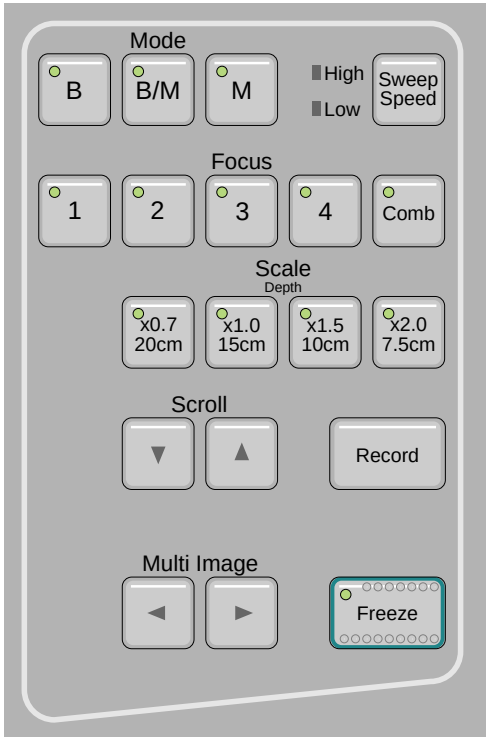
Scale - Depth: (x0.7, x1.0, x1.5 and x2.0) These keys are used to change the depth (magnification) of an image display.

Scroll: Used to scroll an image.

Record: Used to trigger a camera, page printer or DMC Data Transfer.

Multi Image: Used to display and move between multiple image displays.

Freeze: Used to freeze an image. Stops the acquisition of Ultrasound data.



This page left intentionally blank.

Initial Set Up

Monitor Contrast/Brightness

Hospital Name

Date Format

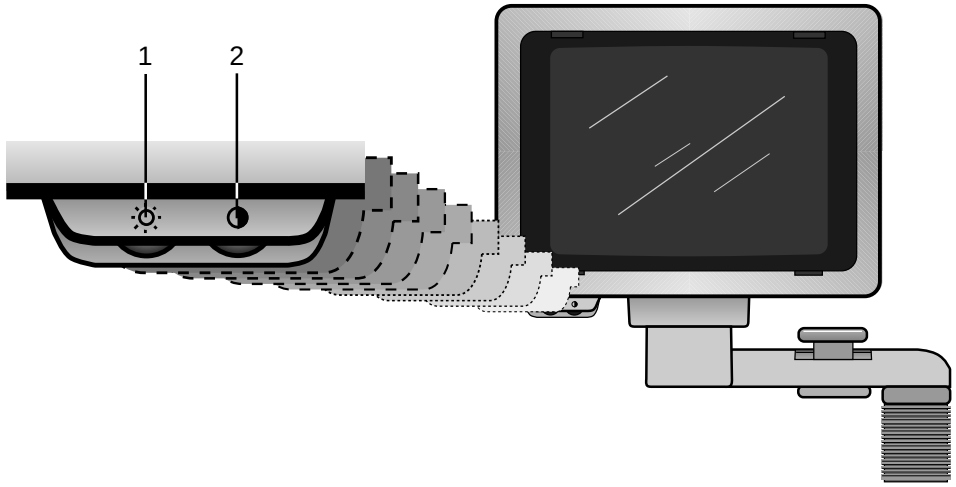
Time Format

Recommended Presets

This chapter outlines the initial adjustment of the monitor and set up of display parameters of the RT 3200 Advantage III. Refer to Section 1—Introduction and Section 5—Control Key Functions in the RT 3200 Advantage III Operator Manual for more thorough explanations.

Monitor Contrast/Brightness

Adjust the brightness and contrast of the display to the room lighting by using the controls under the left, front corner of the monitor.

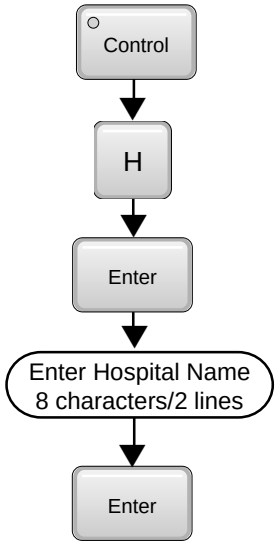


1. This control adjusts the brightness. The brightness will increase as the control is turned counterclockwise.

2. This control adjusts contrast. The picture will become lighter as the control is turned counterclockwise.

Hospital Name

Use the Control function to enter the name of the hospital and department. They should be entered within 2 lines (8 characters maximum per line).



Press the **CONTROL** key.

Press the letter **H**.

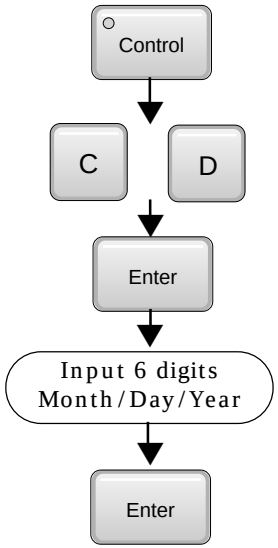
Press the **ENTER** key to set the hospital name information.

Enter the hospital name. A maximum of 16 characters (8 characters per line) is available.

Press **ENTER** to display and store the hospital name information.

The hospital name is shown in the upper left corner of the screen. This information is retained even after the power is turned off.

Date Format



To set the DATE:

Press the **CONTROL** key.

Press the letter **C** followed by the letter **D**.

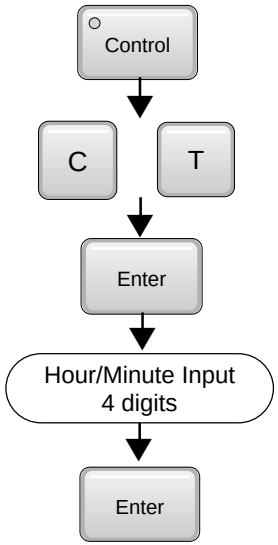
Press the **ENTER** key to set the internal clock for month/day/year.

Use the numeric keys to input the current date to readjust the date on the system. The date needs to be input in the appropriate format (i.e. MMDDYY = 07/27/91).

Data for the date is set when the **ENTER** key is pressed the second time.

NOTE: Slashes are required in the input string. If the date or month is a single digit, it must include a zero to fill out the two-character field.

Time Format



To set the clock TIME:

Press the **CONTROL** key.

Press the letter **C** followed by the letter **T**.

Press **ENTER** to set the clock time (24 hour run).

Use the numeric keys to input the current time to readjust the time on the system. The time needs to be input in the appropriate format (i.e. HM = 1422).

Time data is set when the **ENTER** key is pressed the second time.

NOTE: Multiple functions are available through the Control key operation. See Section 5 of the RT 3200 Advantage III Operator Manual for a complete list and applications.

Recommended Presets

The following are recommended preset settings for specific probes used in OB/GYN and Urology exam categories:

OBSTETRICS/GYNECOLOGY

CA 5.0 MHz Probe

Gain	40
Dynamic Range	60
Focus	3
Depth	x1.0

CB 3.5 MHz and **CK (CF)** 3.5 MHz Probe

Gain	36
Dynamic Range	60
Focus	3
Depth	x1.0

R 7.0 MHz TransVaginal Probe

Gain	30
Dynamic Range	56 or 60
Focus	3
Depth	x1.5

UROLOGY

CA 5.0 MHz Probe

Gain	44
Dynamic Range	60
Focus	3
Depth	x1.0

CB 3.5 MHz and **CK (CF)** 3.5 MHz Probe

Gain	40
Dynamic Range	60
Focus	3
Depth	x1.0

R 7.0 MHz TransRectal Probe

Gain	30
Dynamic Range	48
Focus	3
Depth	x2.0

Measurements

Measurement Controls

Distance Measurement

Circumference Measurement

Area Measurement

Ellipse Measurement

This chapter shows how to make basic measurements with the RT 3200 Advantage III. Refer to Section 4—Generic Measurements in the RT 3200 Advantage III Operator Manual for more thorough explanations.

Measurement Controls

Measurement controls are located above the Trackball. The main keys/ controls involved are:

Dist (Distance)**:** Enables the cursors to make generic linear distance measurements. Used in conjunction with the Trackball, Set and measure functions.

Trace/Area: Enables the trace function. Used to trace an object to determine circumference and/or area of the object. Used in conjunction with the Trackball, Set and measure functions.

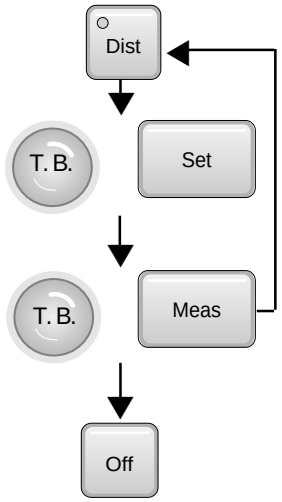
Off: Used to erase the measurement cursors, trace and measured or calculated data.

Set: Used to fix a measurement cursor and enable the second of the pair.

Meas (Measurement)**:** Used to complete a measurement sequence and display the results.

Trackball: Used to move a cursor while making comments, to select tables or functions within the reports and to make measurements.

Distance Measurement



By using four cursor patterns, four distance measurements can be made on one display.

Press the **DIST** key. The LED is lit and the "+" cursor is displayed.

Use the **TRACKBALL** to move the cursor to the measurement starting point and press the **SET** key. The initial measurement point will be locked (set) and the measurement end point cursor appears.

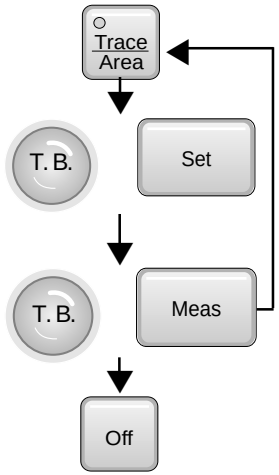
Use the **TRACKBALL** to move the end point "+" cursor to the opposite end of the measurement. (A dotted line with 10 mm intervals connects the two points and the measured value will appear on the left side of the CRT in mm.) Press the **MEAS** key. The second cursor is locked and the measurement values are displayed.

Press the **OFF** key to erase the cursor, dotted line, and measured values.

NOTE: If the DIST key is pressed in the middle of the measurement, the cursor and measure values will be cleared (LED will go out). To complete a measurement, repeat the preceding procedure.

By repeating the preceding procedure, up to four measurements are possible on the same image.

Circumference Measurement



By using four cursor patterns, four circumference measurements can be made on one display.

Press the **TRACE/AREA** key. The LED is lit and the "+" cursor is displayed.

Use the **TRACKBALL** to move the "+" cursor to the measurement starting point. Press the **SET** key. The starting point "+" cursor is locked and the "+" cursor changes to a dot cursor.

Use the **TRACKBALL** to move the dot cursor, tracing the object to be measured. The trace is displayed as a continuous curve and the measured value in mm is displayed on the left side of the screen. When the tracing is complete, press the **MEAS** key. The cursor is locked and measured values are fixed.

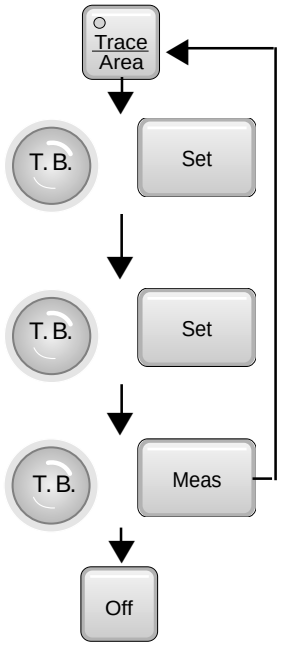
Press the **OFF** key to erase the cursor, trace, and the measured values.

NOTE: If the TRACE/AREA key is pressed in the middle of the measurement, the cursor and measured values will be cleared (LED will go out). To complete a measurement, repeat the preceding procedure.

By repeating the preceding procedure, up to four measurements for circumference and area are possible on the same screen.

Area Measurement

By using the four different cursor patterns, four area measurements can be made on one display.



Press the **TRACE/AREA** key. The LED is lit and the "+" cursor appear is displayed.

Use the **TRACKBALL** to move the "+" cursor to the measurement starting point. Press the **SET** key. The starting point "+" cursor is locked and the "+" cursor changes to a dot cursor.

Use the **TRACKBALL** to move the dot cursor, tracing the object to be measured. The trace is displayed as a continuous curve and the measured value in mm is displayed on the left side of the screen. When the tracing is complete, press **SET**. The circumference measurement is locked. The "+" cursor appears again.

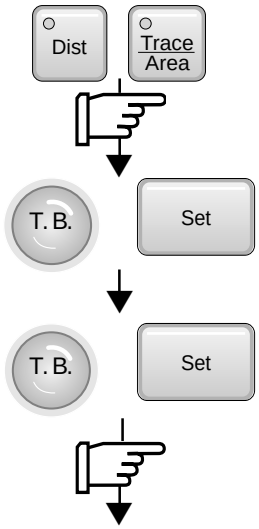
Use the **TRACKBALL** to move the "+" cursor inside the traced area. Press **MEAS**. The cursor is locked and area is measured by a graphical method. The measured value is displayed in square cm.

Press **OFF** to erase all the display of the cursor, trace, and measured data.

Ellipse Measurement

An ellipse measurement function has been provided in order to improve the measurement of head and abdominal circumferences and areas.

The ellipse function supersedes any prior measurements on the screen. Entering the ellipse mode clears all measurements, calipers and traces like when the **OFF** key is pressed.



Press the **DIST** key, then press the **TRACE/AREA** key. Both the **DIST** and **TRACE/AREA** LEDs will light and the highlighted ⊞ cursor appears on the screen.

NOTE: Pressing DIST or TRACE/AREA keys at any time before the completion of this sequence will exit the ellipse mode and remove any ellipse graphics from the display.

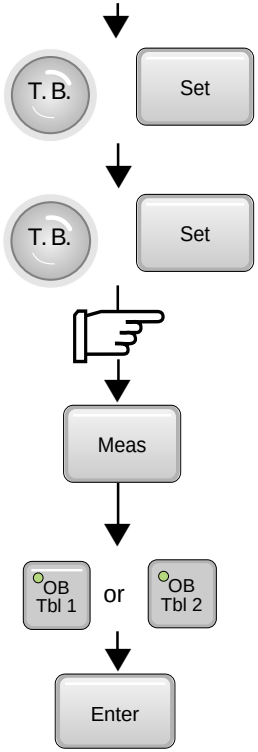
Use the **TRACKBALL** to position the ⊞ cursor at one end of the transverse axis of the ellipse (i.e. BPD for HC or TAD for AC). Press **SET**. A second ⊞ cursor will appear.

Use the **TRACKBALL** to position the highlighted "+" cursor to the opposite end of the transverse axis. Press **SET**. The ellipse graphic will appear with a 1:1 Aspect Ratio (a circle).

NOTE: The transverse diameter is between the two "+" cursors. The sagittal diameter is between the two "x" cursors. The highlighted "x" cursor is now active.

(continued)

Ellipse Measurement (cont'd)



Use the **TRACKBALL** to position the highlighted "x" cursor to the upper end of the sagittal axis. Press **SET**. The highlighted "x" cursor is now active.

Use the **TRACKBALL** to position the highlighted "x" cursor to the lower end of the sagittal axis. Press **SET**. The original "+" cursor is now active.

NOTE: Each time SET is pressed, the cursors become alternately active. Adjustments may be made to the ellipse as desired. The highlighted cursor is the active cursor.

When the ellipse cursors are satisfactorily positioned, press **MEAS** to complete the measurement.

The two diameters, circumference and area measurements will be displayed in their respective fields on the left-hand side of the display screen.

This measurement may be used in OB TBL 1 (AC and HC). It may also be used in user programmable OB TBL 2 menu levels 4 and 5. For gestational age estimations after making an ellipse measurement, select the function (**OB TBL 1 or 2**).

Select the menu level and press **ENTER**.

This page left intentionally blank.

OB Applications

Patient Data Entry

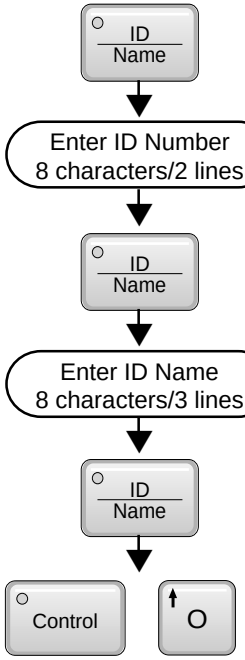
Gestational (OB) Summary Report

OB Measurement Selection

Recommended OB Comments Library

This chapter highlights how to set up for OB measurements and display of the Gestational (OB) Summary Report with the RT 3200 Advantage III. Refer to Section 7—Gestational Summary Report in the RT 3200 Advantage III Operator Manual for more thorough explanations.

Patient Data Entry



Press the **ID/Name** key.

Type in the patient's ID number.

Press the **ID/Name** key again.

Type in the patient name.

Press the **ID/Name** key a third time.

Once the ID number and name have been entered, the personal fields of the OB Report Page can be input. Press **CONTROL** and the letter **O** to activate the Gestational (OB) Report Page. The patient ID and name are already entered on the report page.

Gestational (OB) Summary Report

Data needs to be entered into the personal fields:

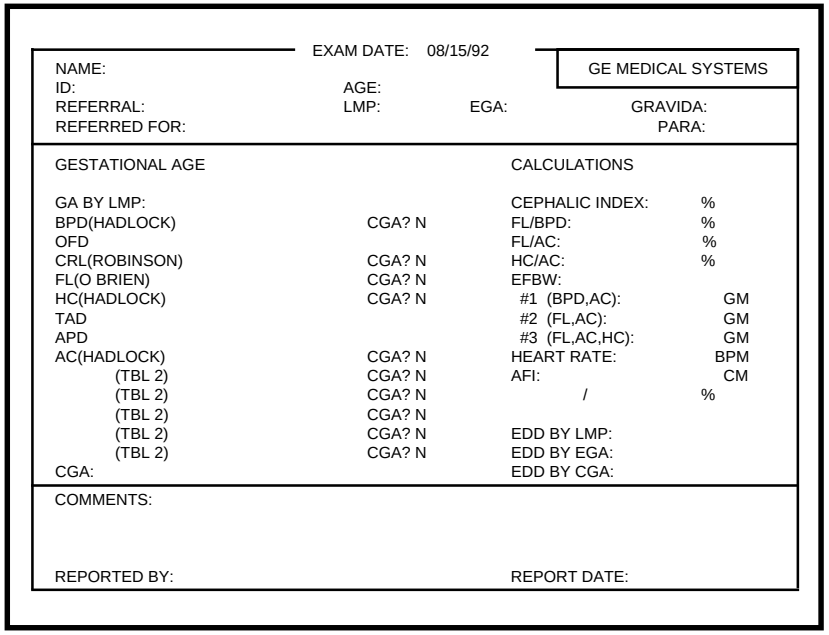
REFERRAL: Enter name of referring physician (16 characters)

REFERRED FOR: Enter reason for referral.

PATIENT AGE: Enter age using a 2-digit number.

LMP: Enter date, using same format as exam date at top of form.

EGA: If LMP date does not apply and the exact age of the fetus is known, enter that in the EGA area (in weeks and days).


EXAM DATE: 08/15/92

GE MEDICAL SYSTEMS

NAME:
ID: AGE:
REFERRAL: LMP: EGA: GRAVIDA:
REFERRED FOR: PARA:

GESTATIONAL AGE

GA BY LMP:
BPD(HADLOCK) CGA? N
OFD
CRL(ROBINSON) CGA? N
FL(O BRIEN) CGA? N
HC(HADLOCK) CGA? N
TAD
APD
AC(HADLOCK) CGA? N
(TBL 2) CGA? N
(TBL 2) CGA? N
(TBL 2) CGA? N
(TBL 2) CGA? N
(TBL 2) CGA? N
CGA:

CALCULATIONS

CEPHALIC INDEX: %
FL/BPD: %
FL/AC: %
HC/AC: %
EFBW:
#1 (BPD,AC): GM
#2 (FL,AC): GM
#3 (FL,AC,HC): GM
HEART RATE: BPM
AFI: CM
/ %
EDD BY LMP:
EDD BY EGA:
EDD BY CGA:

COMMENTS:

REPORTED BY: REPORT DATE:

GRAVIDA: Enter number of pregnancies of the patient (2 digits).

PARA: Enter number of deliveries of the patient (2 digits).

Gestational (OB) Summary Report (cont'd)

The Gestational Summary Report consists of the measurements and calculations derived from measurements taken from selected anatomy. To perform the measurements listed below, see the *OB Measurement Selection* portion of this section.

BIPARIETAL DIAMETER (BPD):	Distance or Ellipse
OCCIPITAL-FRONTAL DIAMETER (OFD):	If 2 Distance is performed for BPD, this is the second distance measurement.
CROWN RUMP LENGTH (CRL):	Distance
FEMUR LENGTH (FL):	Distance
HEAD CIRCUMFERENCE (HC):	2 Distance, Trace or Ellipse
TRANSVERSE ABDOMINAL DIAMETER (TAD):	If a 2 Distance measurement is performed for AC, this is the first distance measurement.
ABDOMINAL ANTERIOR-POSTERIOR DIAMETER (APD):	If a 2 Distance measurement is performed for AC, this is the second distance measurement.
ABDOMINAL CIRCUMFERENCE (AC):	2 Distance, Trace or Ellipse
HEART RATE (HR):	Distance in M-Mode
AMNIOTIC FLUID INDEX (AFI):	AFI needs to be selected first in the Calc2 menu function before any measurements are taken. Then four separate distance measurements need to be performed, one in each quadrant of the uterus. Do NOT press the **ENTER** key until all four measurements have been made.

Gestational (OB) Summary Report (cont'd)

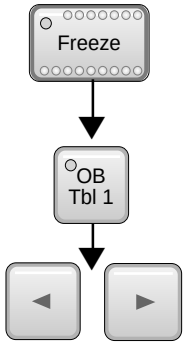
This report consist of the following calculations. The calculations will appear after the appropriate measurements have been performed that make up that calculation.

CEPHALIC INDEX:	Ratio of the two diameters used in the measurement of the head circumference.
FL/BPD:	Ratio of the femur length to biparietal diameter, in percent.
FL/AC:	Ratio of femur length to abdominal circumference, in percent.
HC/AC:	Ratio of head circumference to abdominal circumference, in percent.
ESTIMATED FETAL BODY WEIGHT:	Estimated Fetal Body Weight is computed three different ways, using three models.
#1 (BPD/AC):	Computed using a Shephard/Richards/Berkowitz model.
#2 (FL/AC):	Computed using the Hadlock model.
#3 (FL/AC/HC):	Computed using a Hadlock, Harris, Sharman, Deter and Park model.

OB Measurement Selection

The function keys have been programmed to simplify the steps for taking measurements. The factory programmed OB measurement calculations are in OB Table 1, Calc-1 and Calc-2. OB Table 2 is for programming the user's most commonly used measurements.

The following describes how to select a parameter for calculation.



Press the **FREEZE** key to stop image acquisition.

Press the **OB TBL 1** key. The five selections available in OB Table 1 are displayed.

If necessary, use the **ARROW** keys to select the appropriate selection (i. e. BPD).

1 BPD 2 CRL 3 FL 4 AC 5 HC

Do the appropriate measurement. If necessary, refer to the *Measurements* section of this quick guide to perform the measurements. Once the measurement is completed, press the **ENTER** key to calculate the gestational age and to transfer the information to the report page.

OB Measurement Selection (cont'd)

The selections available for Calc-1, Calc-2 and OB Table 2 are as follows:

CALC 1

1 CIRC 2 VOL [3] HR 4 VELO 5 A/B

CALC 2

1 EDC 2 EFBW 3 STVOL [4] AFI 5 HIP

OB TABLE 2

[1] 2 3 4 5

The name programmed by the user follows the appropriate number.

Up to five user programmable tables can be programmed into OB TBL 2 by using the **CONTROL**, **G**, **0** function.

NOTE: Menu levels 1 through 3 are for single distance measurements. Menu levels 4 and 5 are for circumference measurements.

Refer to Section 6 of the RT 3200 Advantage III Operator Manual for complete programming procedures.

Recommended OB Comments Library

The following list is the recommended comments library for the OB exam category. For programming, either review the video tape again or refer to the User Programmable Comments Library portion of Section 7 in the Operator manual.

A	=	Abdomen	H	=	Head
B	=	Bladder	HM	=	Humerus
CI	=	Cord Insertion	K	=	Kidneys
CRL	=	Crown Rump Length	LL	=	Lower Leg
D	=	Diaphragm	LV	=	Lateral Ventricle
F	=	Face	P	=	Placenta
FA	=	Forearm	SP	=	Spine
FM	=	Femur	ST	=	Stomach
4	=	Four Chamber Heart	3	=	Three Vessel Cord
GS	=	Gestational Sac	YS	=	Yolk Sag

NOTE: There is one comments library for all exam categories. The comments library is common to all exams.

GYN/Fertility Applications

Patient Data Entry

GYN Summary Report

Probe Orientation

GYN Measurement Selection

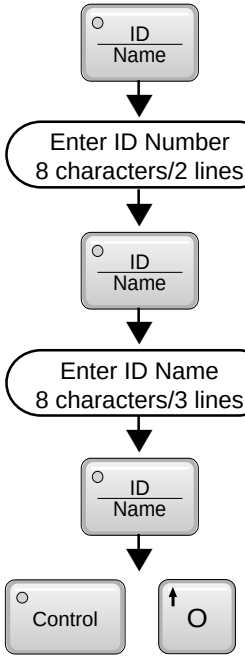
Fertility Summary Report

IVF Measurement Selection

Recommended GYN Comments Library

This chapter highlights how to set up for the GYN/Fertility measurements and display of the GYN/Fertility Summary Reports with the RT 3200 Advantage III. Refer to Section 8—GYN/Fertility Report Pages in the RT 3200 Advantage III Operator Manual for more thorough explanations.

Patient Data Entry



Press the **ID/Name** key.

Type in the patient's ID number.

Press the **ID/Name** key again.

Type in the patient name.

Press the **ID/Name** key a third time.

Once the ID number and name have been entered, the personal fields of the GYN/Fertility Report Pages can be input. Press **CONTROL** and the letter **M** to activate the GYN/Fertility Report Pages. The patient ID and name are already entered on the report page.

GYN Summary Report

Data needs to be entered into the personal fields:

REFERRAL: Enter name of referring physician (16 characters)

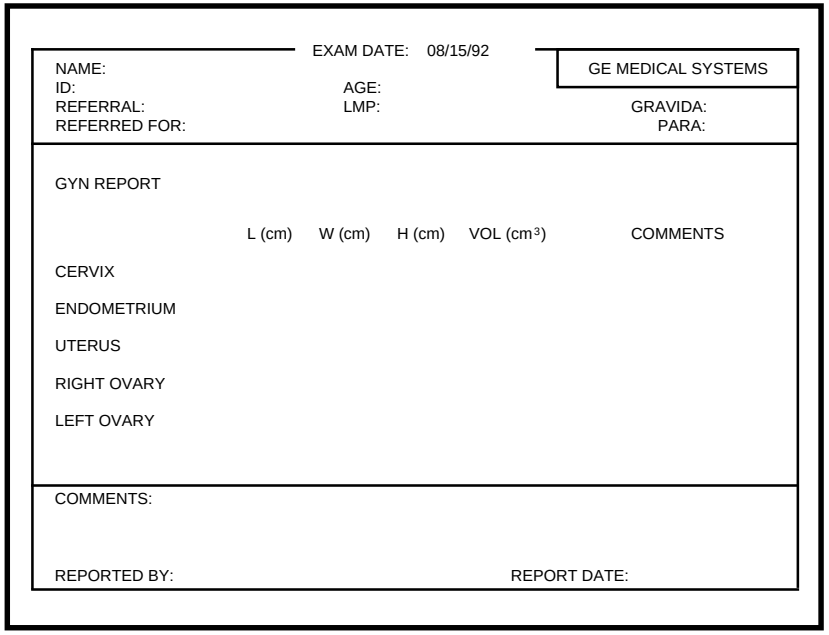
REFERRED FOR: Enter reason for referral.

PATIENT AGE: Enter age using a 2-digit number.

LMP: Enter date, using same format as exam date at top of form.

GRAVIDA: Enter number of pregnancies of the patient.

PARA: Enter number of deliveries of the patient.



GYN Summary Report (cont'd)

The GYN Summary Report consists of volume calculations derived from length, width and height measurements taken from selected anatomy. To perform the measurements of the anatomy listed below, see the *GYN Measurement Selection* portion of this section.

CERVIX:	3 Distance Measurements
ENDOMETRIUM:	3 Distance Measurements
UTERUS:	3 Distance Measurements
RIGHT OVARY:	3 Distance Measurements
LEFT OVARY :	3 Distance Measurements

Probe Orientation

Coronal View

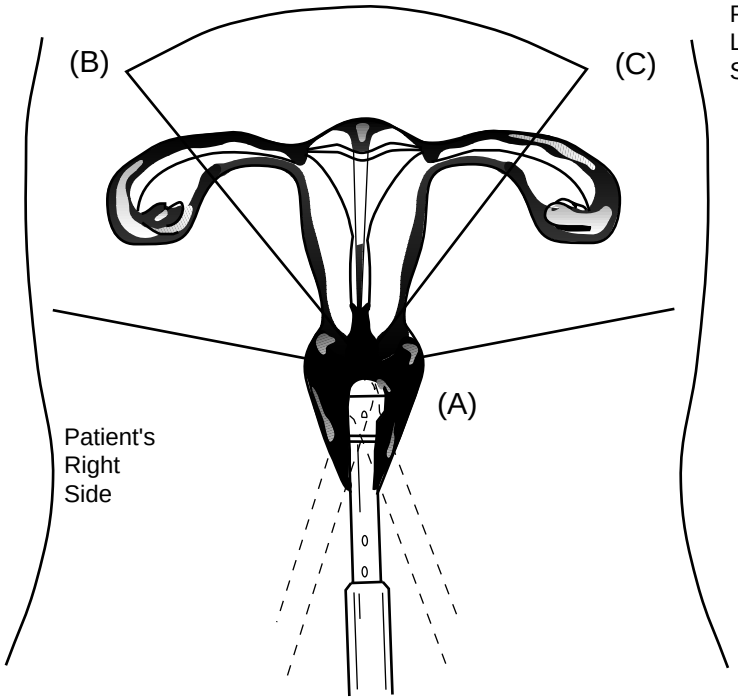
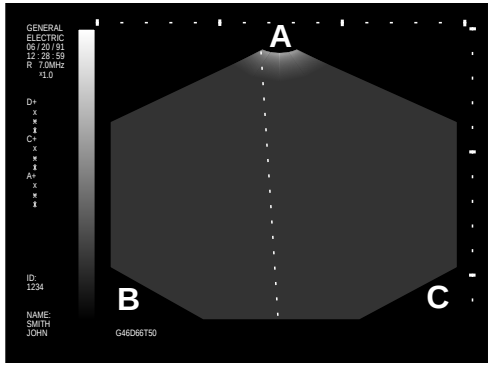


Image Display Screen



NOTE: The Image Reverse Function is "ON".

Probe Orientation (cont'd)

Sagittal View

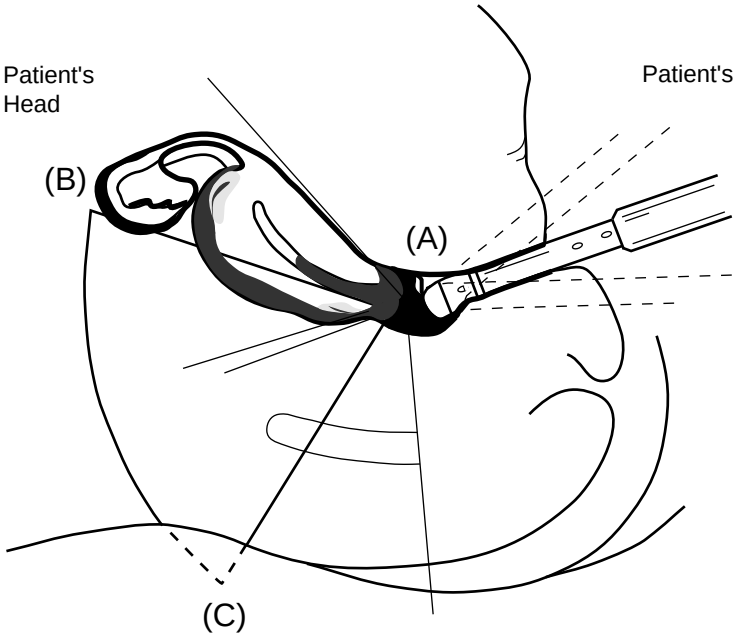
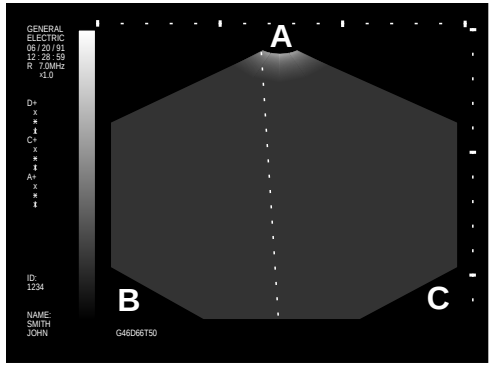


Image Display Screen



NOTE: The Image Reverse Function is "ON".

GYN Measurement Selection

The function keys have been programmed to simplify the steps for taking measurements. The factory programmed GYN measurements/calculations are in Calc-3.

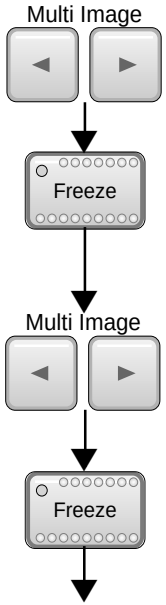
The following steps detail the process to select the parameter for calculation using the three diameter method in the split screen mode.

NOTE: Multiple GYN measurements should always be made in order:

1.	*"+"*	*L*	*Length*
2.	*"x"*	*W*	*Width*
3.	*"x"*	*H*	*Height*

Before pressing ENTER, all desired measurements must be displayed on the same screen to be included in the volume calculation.

GYN Measurement Selection (cont'd)



Press the **MULTI-IMAGE LEFT ARROW** key. Scan the object in either a sagittal or axial scan plane.

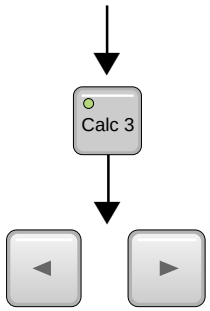
Press **FREEZE** to stop image acquisition of the left image.

Press the **MULTI-IMAGE RIGHT ARROW** key to activate the right image. Scan the object in the appropriate scan plane.

Press **FREEZE** to stop image acquisition of the right image.

(continued)

GYN Measurement Selection (cont'd)



Press the **CALC 3** key once to display the GYN calculations menu at the bottom of the display.

1 CERVIX 2 ENDO 3 UTERUS 4 RT OV 5 LT OV

Use the **ARROW** keys to select the organ being measured.

1 CERVIX 2 ENDO [3] UTERUS 4 RT OV 5 LT OV

Always measure the anatomy length first, then width, and finally height. Failure to perform the three measurements in this order will result in an inaccurate volume calculation. If necessary, refer to the *Measurements* section of this quick guide to perform distance measurements. The **ENTER** key must not be pressed until all desired measurements are performed and displayed on the same screen.

Fertility Summary Report

Data needs to be entered into the personal fields:

REFERRAL: Enter name of referring physician (16 characters).

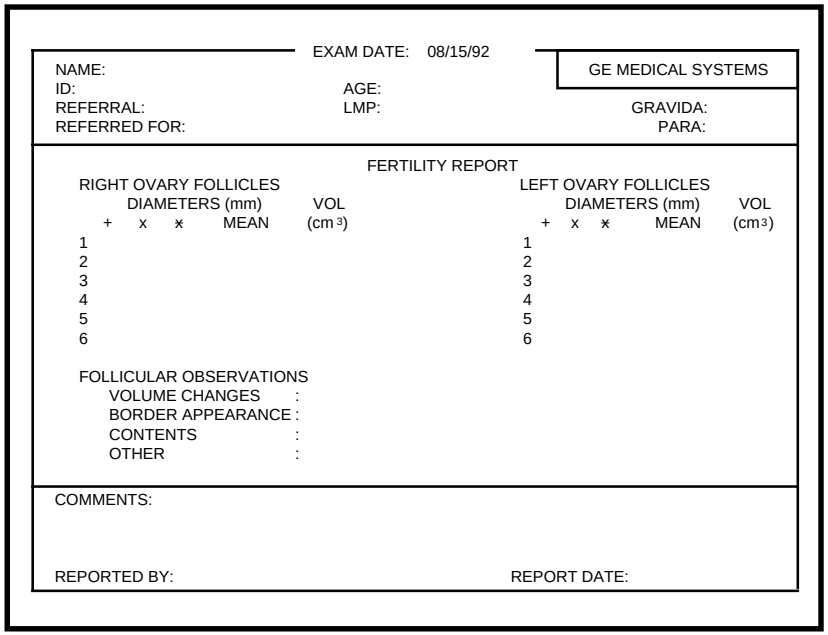
REFERRED FOR: Enter reason for referral.

PATIENT AGE: Enter age using a 2-digit number.

LMP: Enter date, using same format as exam data at top of form.

GRAVIDA: Enter number of pregnancies of the patient (2 digits).

PARA: Enter number of deliveries of the patient (2 digits).



EXAM DATE: 08/15/92

NAME:
ID:
REFERRAL:
REFERRED FOR:

AGE:
LMP:

GE MEDICAL SYSTEMS

GRAVIDA:
PARA:

FERTILITY REPORT

RIGHT OVARY FOLLICLES	DIAMETERS (mm) + x x	MEAN	VOL (cm³)	LEFT OVARY FOLLICLES	DIAMETERS (mm) + x x	MEAN	VOL (cm³)
1				1			
2				2			
3				3			
4				4			
5				5			
6				6			

FOLLICULAR OBSERVATIONS
VOLUME CHANGES :
BORDER APPEARANCE :
CONTENTS :
OTHER :

COMMENTS:

REPORTED BY:

REPORT DATE:

Fertility Summary Report (cont'd)

The Fertility Report Page has five other fields that can be edited directly by the user. They are:

VOLUME CHANGES: Enter follicular observations (alphanumeric, 40 characters).

BORDER APPEARANCE: Enter follicular observations (alphanumeric, 40 characters).

CONTENTS: Enter follicular observations (alphanumeric, 40 characters).

OTHER: Enter follicular observations (alphanumeric, 40 characters).

COMMENTS: Enter general comments (alphanumeric, one line of 56 and two lines of 64 characters).

The Fertility Summary Report consists of volume and mean calculations derived from length, width and height measurements taken from selected anatomy. To perform the measurements of the anatomy listed below, see the *IVF Measurement Selection* portion of this section.

FOLLICLE DIAMETERS: Up to six measurements for each ovary can be taken. For each follicle, the length, width and height measurements must be performed.

MEAN DIAMETERS: Up to six calculations for each ovary (six follicles for the right ovary and six follicles for the left ovary) can be calculated.

VOLUME: Calculated for the six follicles measured for the right ovary and six follicles for the left ovary.

IVF Measurement Selection

The function keys have been programmed to simplify the steps for taking measurements. The factory programmed IVF measurement calculations are in the second menu of the Calc-3 selections. Press **CALC-3** twice to display the IVF selections.

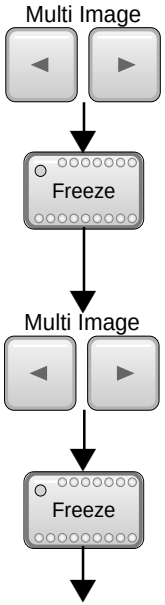
The following steps detail the process to select the parameter for calculation using the three diameter method in the split screen mode.

NOTE: Multiple IVF measurements should always be made in order:

1.	*"+"*	*L*	*Length*
2.	*"x"*	*W*	*Width*
3.	*"x"*	*H*	*Height*

Before pressing ENTER, all desired measurements must be displayed on the same screen to be included in the volume calculation.

IVF Measurement Selection (cont'd)



Press the **MULTI-IMAGE LEFT ARROW** key. Scan the object in either a sagittal or axial scan plane (for more information, see the *Probe Orientation* portion of this section).

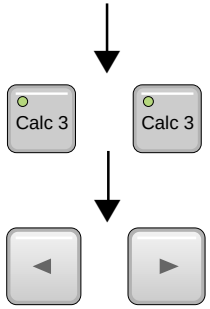
Press **FREEZE** to stop image acquisition of the left image.

Press the **MULTI-IMAGE RIGHT ARROW** key to activate the right image. Scan the object in the appropriate scan plane.

Press **FREEZE** to stop image acquisition of the right image.

(continued)

IVF Measurement Selection (cont'd)



Press the **CALC 3** key twice to display the IVF calculations menu at the bottom of the display.

1 RT OV 2 LT OV FOLLICLE = __

Use the **ARROW** keys to select the organ being measured.

1 RT OV 2 LT OV FOLLICLE = __

Always measure the anatomy length first, then width, and finally height. Failure to perform the three measurements in this order will result in an inaccurate volume calculation. If necessary, refer to the *Measurements* section of this quick guide to perform distance measurements. The **ENTER** key must not be pressed until all desired measurements are performed and displayed on the same screen.

Recommended GYN Comments Library

The following list is the recommended comments library for the GYN exam category.

B = Bladder
C = Cyst
CX = Cervix
CS = Cul de Sac
E = Endometrium
F = Fundus
FB = Fibroid
FL = Follicle
L = Left
LO = Left Ovary
M = Midline
R = Right
RO = Right Ovary
S = Sagittal
T = Transverse

NOTE: There is one comments library for all exam categories. The comments library is common to all exams.

This page intentionally left blank.

Urology Applications

Patient Data Entry

Urology Summary Report

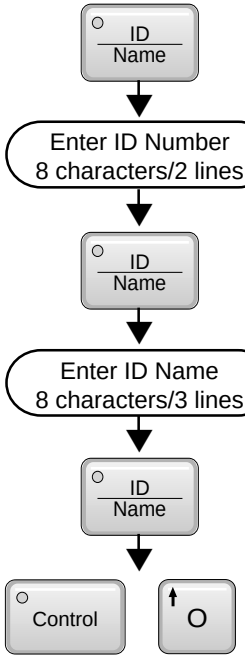
Probe Orientation

Urology Measurement Selection

Recommended Urology Comments Library

This chapter highlights how to set up for the basic Urology measurements and display of the Urology Summary Report with the RT 3200 Advantage III. Refer to Section 9—Urology in the RT 3200 Advantage III Operator Manual for more thorough explanations.

Patient Data Entry



Press the **ID/Name** key.

Type in the patient's ID number.

Press the **ID/Name** key again.

Type in the patient name.

Press the **ID/Name** key a third time.

Once the ID number and name have been entered, the personal fields of the Urology Report Pages can be input. Press **CONTROL** and the letter **U** to activate the Urology Report Pages. The patient ID and name are already entered on the report page.

Urology Summary Report

Data needs to be entered into the personal fields:

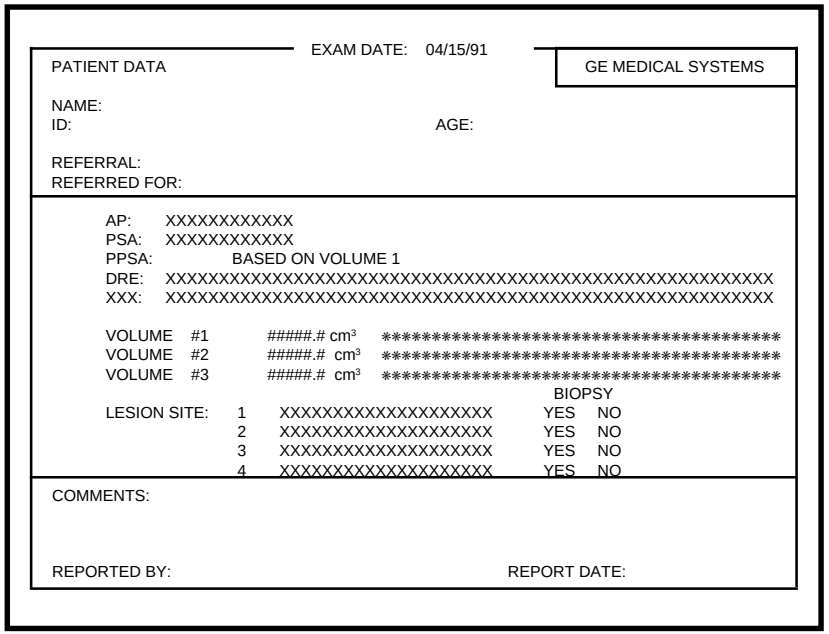
REFERRAL: Enter name of referring physician (16 characters)

REFERRED FOR: Enter reason for referral

PATIENT AGE: Enter age using a 2-digit number

AP: Alkaline Phosphatase concentration (12 characters)

PSA: Prostatic Specific Antigen concentration (12 characters)



Urology Summary Report (cont'd)

PPSA: On the PPSA line is a non-edit field that corresponds to the calculation result. The edit field following the words "BASED ON VOLUME" is a single digit (1, 2 or 3) to indicate which volume measurement (corresponding to the entire gland) is used to calculate the PPSA.

The volume chosen is multiplied by the value (0.12 or 0.15) used as the threshold level. (It is based on standard production of PSA per gram of volume of prostatic tissue.)

NOTE: 0.12 is the system default. To change from 0.12 to 0.15, see Control, U, P in Section 5 of the RT 3200 Advantage III Operator Manual.

DRE: Digital Rectal Exam results (56 characters)

XXX: Optional User Specific field (4 character name, 56 character text).

LESION SITE: User specified comments.

VOLUME 1-3: Comment line, to the right of each measurement, can be used to describe the volume measurement (40 characters each).

BIOPSY: Indicated whether the lesion site was biopsied. Enter "Y" for yes and "N" for no.

COMMENTS: General comments and findings (248 characters in 4 lines).

The Urology Summary Report consists of volume calculations derived from length, width and height measurements of the prostate. To perform the measurements, see the *Urology Measurement Selection* portion of this section.

VOLUME: 3 Distance Measurements

Probe Orientation

Axial View

Patient's Right Side

Patient's Left Side

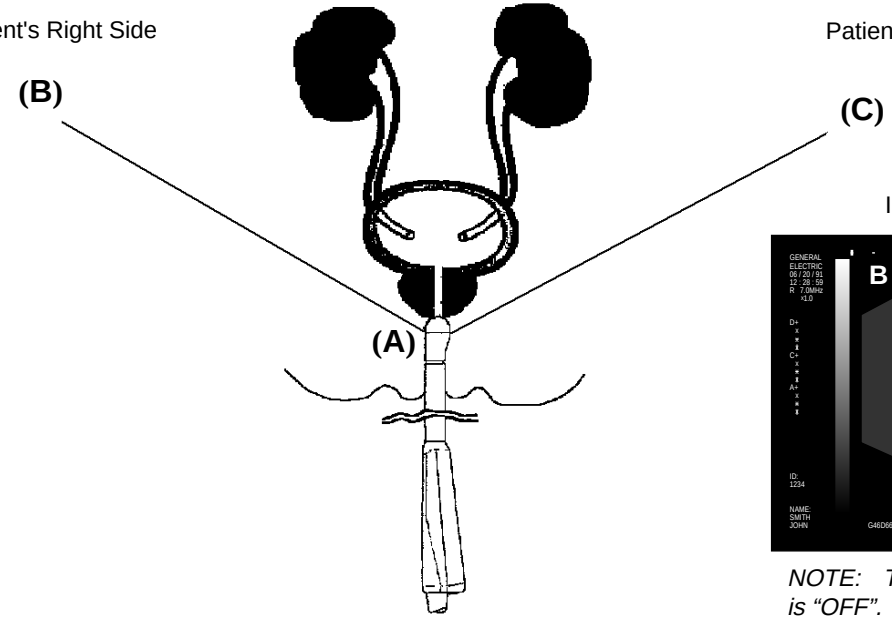
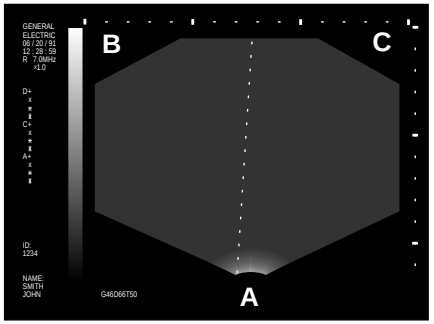


Image Display Screen



NOTE: The Image Reverse Function is "OFF". The Image Invert Function is "ON".

Probe Orientation (cont'd)

Sagittal View

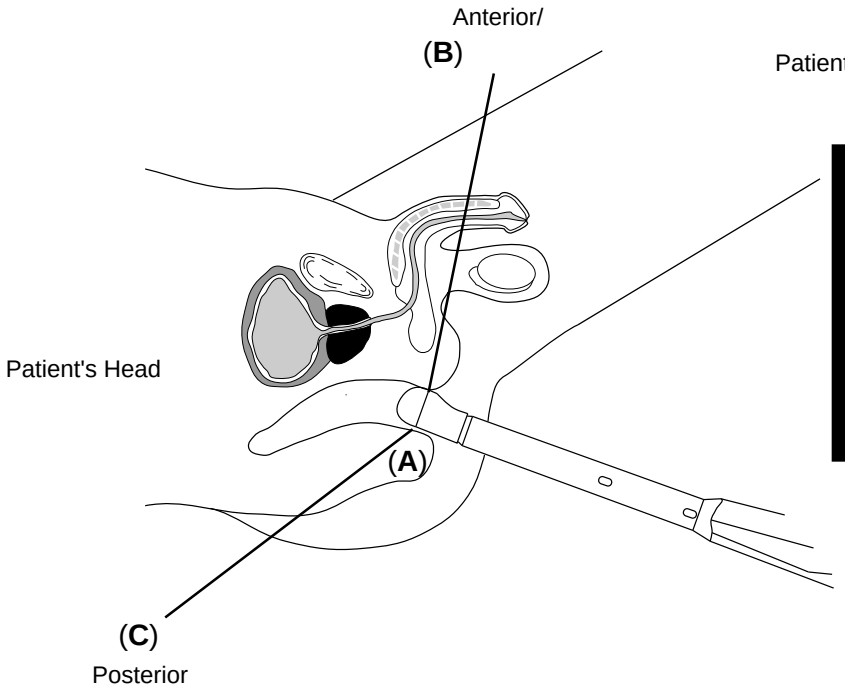
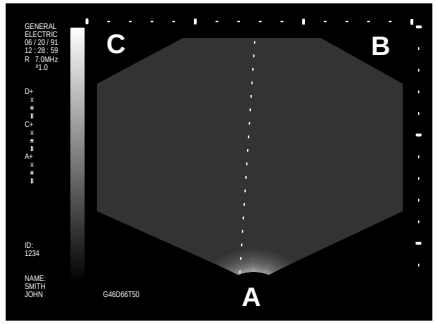


Image Display Screen



NOTE: The Image Reverse Function is "OFF". The Image Invert Function is "ON".

Urology Measurement Selection

The function keys have been programmed to simplify the steps for taking measurements. The factory programmed Urology measurements/calculations for the prostate volume are in Calc 1.

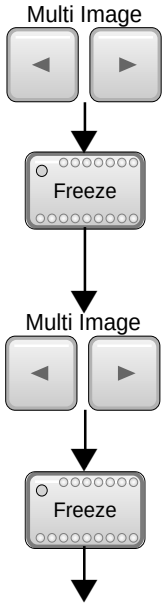
The following steps detail the process to select the parameter for calculation using the three diameter method in the split screen mode.

NOTE: Multiple Urology measurements should always be made in order:

1.	*"+"*	*L*	*Length*
2.	*"x"*	*W*	*Width*
3.	*"x"*	*H*	*Height*

Before pressing ENTER, all desired measurements must be displayed on the same screen to be included in the volume calculation.

Urology Measurement Selection (cont'd)



Press the **MULTI-IMAGE LEFT ARROW** key. Scan the object in either a sagittal or axial scan plane.

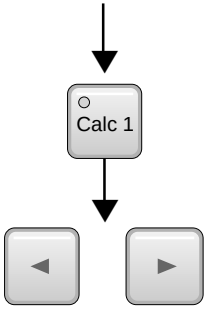
Press **FREEZE** to stop image acquisition of the left image.

Press the **MULTI-IMAGE RIGHT ARROW** key to activate the right image. Scan the object in the appropriate scan plane.

Press **FREEZE** to stop image acquisition of the right image.

(continued)

Urology Measurement Selection (cont'd)



Press the **CALC 1** key to display the Urology calculations menu at the bottom of the display.

1 CIRC 2 VOL 3 HR 4 VELO 5 A/B A+Bx

Use the **ARROW** keys to select the volume.

1 CIRC [2] VOL 3 HR 4 VELO 5 A/B A+BxC*

Always measure the anatomy length first, then width, and finally height. Failure to perform the three measurements in this order will result in an inaccurate volume calculation. If necessary, refer to the *Measurements* section of this quick guide to perform distance measurements. The **ENTER** key must not be pressed until all desired measurements are performed and displayed on the same screen.

Recommended Urology Comments Library

The following list is the recommended comments library for the OB exam category.

A = Apex
B = Base
BL = Bladder
BX = Biopsy Site
ED = Ejaculatory Duct
K = Kidney
L = Left
LT = Left Teste
M = Mid Gland
ML = Mid Line
P = Prostate
PB = Post Biopsy
R = Right
RT = Right Teste
S = Sagittal
SV = Seminal Vesicle
T = Transverse
U = Urethra
V = Vas Deferens

NOTE: There is one comments library for all exam categories. The comments library is common to all exams.

Accessories/Supplies

Placing Orders

Disinfection

Probe Covers

Gel

Gel Holders

Biopsy Supplies

Sony Printer Paper

This chapter lists the accessories available for the RT 3200 Advantage III.

Placing Orders

To place an order, call your local Applications, Sales or Service Representative.

FOR USA ONLY

GE Access Center at 1-800-472-3666

Disinfection

PART NO.	DESCRIPTION
E8386EE	Sterilizing/Disinfecting Tray for TV/TR Probes. 19"L x 6"W x 5"H with perforated inner liner and transparent lid.
E8386EB	CIDEX Activated Dialdehyde Solution. 16 1-quart bottles per case.
E8386EC	CIDEX Activated Dialdehyde Solution. Four 1-gallon bottles per case.

Probe Covers

PART NO.	DESCRIPTION
E8385CC	Sanitary, double tumbled, dry lubricant latex cover, 3.5 cm x 20 cm with 40 elastic bands each. Outer Probe Cover for TR/TV Probes. Box of 20 individually packaged sanitary sets.
E8385CG	Outer Cover Econo Pack. Sanitary latex covers for TE/TV probes, 3.5 cm x 20 cm, includes 100 bands, not individually wrapped, box of 100.
E8386CD	Sanitary Endocavitary Probe Covers. Latex covers fit GE's 7.0 MHz probe, 2.0 cm x 20 cm. Individually wrapped with 4 band each. 24 covers per box.
E8385CH	Sheathes™ Bulk Probe Covers. Box of 100 latex covers, 5 cm x 20 cm, without bands.
E8385CK	Bulk Sanitary #35 Elastic Bands, 100 per pack.

Gel

PART NO.	DESCRIPTION
E8365AF	Aquasonic 100 Ultrasound Transmission Gel. One 5 liter jug.
E8365BA	Aquasonic 100 Ultrasound Transmission Gel. Case of twelve 250 ml plastic bottles.
E8365BJ	Sterile Aquasonic 100 Transmission Gel. Box of forty eight 20-gram foil pouches.
E8365BC	Scan Ultrasound Gel. Case of twelve 8 oz. plastic bottles.
E8365BK	Scan Ultrasound Gel. Four 1 gallon containers, two dispensers and one dispenser pump.
E8365BD	Scan Ultrasound Gel. One gallon jug includes one empty dispensing bottle.

Gel Holders

PART NO.	DESCRIPTION
E8365BH	Thermasonic Gel Warmer. Holds three 8 oz. dispenser bottles. 110V.
E8365BL	Echowarm Gel Warmer. Holds single 12 oz. gel dispenser bottle. Designed for continuous use. Hospital grade plug, 110V.

Biopsy Supplies

FOR CA/CB PROBES (CONVEX)

PART NO.	DESCRIPTION
E8385FA	Starter Kit for CA/CB Convex Probe. Includes one reusable bracket and 5 sterile procedure kits.
E8385LC	Replacement Biopsy Kit. Includes 24 Sterile Procedure Kits (no bracket). Procedure Kit includes : 1 Needle Guide usable with 14, 16, 18, 20, 22 or 25 gauge needles 1 Non-latex Probe Cover 20 ml Packet of Sterile Ultrasound Gel 2 Rubber Bands
E8385LF	Sterile Probe Cover Kit. Includes 24 Sterile 5.5" x 24" Non-Latex Probe Covers, 24 Sterile Gel Packs and 48 Elastic Bands. (No Bracket or Needle Guides).

FOR LP PROBES (LINEAR)

E8385LB	Starter Kit for LP 7.5 Probe. Includes one reusable bracket and 24 sterile procedure kits. Procedure Kit includes : 1 Needle Guide usable with 14, 16, 18, 20, 22 or 25 gauge needles 1 Non-latex Probe Cover 20 ml Packet of Sterile Ultrasound Gel 2 Rubber Bands
E8385LF	Sterile Probe Cover Kit. Includes 24 Sterile 5.5" x 24" Non-Latex Probe Covers, 24 Sterile Gel Packs and 48 Elastic Bands. (No Bracket or Needle Guides).

Biopsy Supplies (cont'd)

FOR 6.5 MHz (MZ) PROBE

PART NO.	DESCRIPTION
*	Stainless Steel Non-disposable (straight) for 25 cm Needle
E8323GE	Cleaning Brushes for use with the non-disposable Biopsy Guide for 6.5 MHz Endo Probe. Single use only. 5 brushes per package.
E8386AE	Biopty Biopsy System. Standard reusable instrument with 23mm penetration depth for use with our endocavitary probes. Packaged individually, non-sterile.
E8386AJ	Biopty-Cut Needles for the Biopty System, 18g x 25cm length. Packaged individually, sterile. Box of 10. For use with non-disposable stainless steel straight guide.

* Contact your Sales Representative for information regarding this accessory.

Biopsy Supplies (cont'd)

FOR 5 MHz TV STRAIGHT HANDLE PROBE

PART NO.	DESCRIPTION
E8323GB	Bx Guides—Sterile disposable biopsy guide. Box of 25.

FOR 7MHz TR/TV PROBE

E8386CB	Bx Guides—Sterile disposable endocavitary biopsy guide, long. For GE H4618E probe. Individually packaged in Tyvek bag, with instruction kit. Box of 25.
E8323GD	Cleaning Brushes, for the 7.0 MHz endocavitary probe needle guides. 5 brushes per pack.
E8386AE	Biopty Biopsy System. Standard reusable instrument with 23mm penetration depth for use with our endocavitary probes. Packaged individually, non-sterile.
E8386AF	Biopty-Cut Needles for the Biopty System, 18g x 20cm length. Packaged individually, sterile. Box of 10.
E8386AG	Monopty Biopsy System. Disposable instrument/needle combination for use with our 7.0 MHz endocavitary probe. 18g x 20cm length, 22mm needle penetration. Packaged individually, sterile. Box of 10.

Sony Printer Paper

PART NO.	DESCRIPTION
E8310KB	Superior Dynamic Range Video Printer Paper for use with the UP-890, case of 5 rolls.
E8310FA	High Density Video Printer Paper for use with the UP-870MD or UP-850, 210 prints per roll, box of 5 rolls. (UPP-110H) Not for use with UP-811.
E8310GA	Standard Density Video Printer Paper for use with UP-870MD, UP-850 or UP-811, box of 12 rolls. (UPP-1105/1).